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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,472	10/03/2001	Michael Sugarman	6053/CMP/CMP/RKK	1155

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APPLIED MATERIALS, INC.
2881 SCOTT BLVD. M/S 2061
SANTA CLARA, CA 95050

EXAMINER

COLE, LAURA C

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 10/14/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/970,472

Applicant(s)

SUGARMAN, MICHAEL

Examiner

Laura C Cole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 3, 4, 9, and 10 are objected to because of the following informalities:

Claims 3 and 9 relate to a plurality of rollers along a diameter of the substrate and Claims 4 and 10 relate to a plurality of rollers along a radius of the substrate. It is unclear to the Examiner what is meant by "rollers along a radius" versus "rollers along a diameter." Appropriate correction is required.

2. Claims 5 and 11 are objected to because of the following informalities:

Both Claims 5 and 11 use the term "sponge-like" which is confusing. What material is included as "sponge-like"? Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 and 7-11 are rejected under 35 U.S.C. 103(a) as being obvious over Stephens et al., USPN 5,875,507 in view of Fishkin et al., USPN 6,202,658.

The applied reference (Fishkin et al.) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is

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thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Stephens et al. disclose the claimed invention including a plurality of rollers adapted to support a substrate in a vertical orientation along a diameter or radius (32, 34), a scrubber brush adapted to contact a substrate (26, 28), and a nozzle at an elevation below that of the scrubber brush (57,59) adapted to spray fluid to a beveled edge or major surface of a substrate (see Figure 6). The fluid of Stephens et al. is directed off the substrate by gravity (Abstract, Lines 8-10). The scrubber brush is made of PVA foam, which is sponge-like (Column 3 Lines 16-21). Stephens et al. do not disclose that the nozzle is sonic.

Fishkin et al. comprise a plurality of rollers adapted to support a substrate in a vertical orientation along a diameter and radius (55a-cl; Figure 5), a scrubber brush adapted to contact a substrate (51a,b), and a sonic nozzle in order provide superior

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edge cleaning with minimal cleaning fluid, and for part longevity (Column 2 Line 47 to Column 3 Line 9). See particularly Figure 5, described in Column 5 Line 11 to Column 6 Line 35 (this embodiment shows the claimed invention, however the nozzles are positioned above the scrubber brush).

It would have been obvious for one of ordinary skill in the art to modify the nozzle of Stephens et al. in order to provide a sonic nozzle, such as Fishkin et al. teach, so that the cleaning solution is minimized, that the nozzle parts last longer, and for an overall better cleaning.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being obvious over Redeker et al., USPN 6,523,553 in view of Konishi et al., USPN 6,385,805.

The applied reference has a common assignee (Redeker et al.) with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29,

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1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Redeker et al. disclose the claimed invention including a plurality of rollers adapted to support a substrate in a vertical position along a radius or diameter (15a-c), a scrubber brush (21) adapted to contact a substrate supported by the rollers, and a nozzle (23) positioned at an elevation below the scrubber brush (Figure 1) so to output spray to a beveled edge (Column 1 Lines 6-59). The fluid is directed off the substrate (Column 4 Lines 40-47). The scrubber is sponge-like (Column 4 Lines 26-31). The spray contacts the edge at a position between the plurality of rollers (Figure 1).

Redeker et al. does not disclose that the spray nozzle is a sonic nozzle.

Konishi et al. disclose a scrubbing apparatus that comprises a plurality of rollers that support a substrate in a horizontal position (22), a scrubber brush (31, 32), and a sonic nozzle (41). Konishi et al. teach that a sonic nozzle is beneficial for scrubbing the surface of a substrate since it penetrates into a small gap with ease and is able to clean a substrate thoroughly, where a brush cannot contact (Column 2 Lines 13-21).

It would have been obvious for one of ordinary skill in the art to modify the apparatus of Redeker et al. and use a sonic nozzle such as Konishi et al. teach so that the beveled edge of a substrate is more thoroughly cleaned.

5. Claims 1-5 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephens et al., USPN 5,87,507 in view of Konishi et al., USPN 6,385,805.

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Both Stephens et al. and Konishi et al. disclose all elements of the claimed invention mentioned above. The nozzle of Stephens et al. is not a sonic nozzle.

It would have been obvious for one of ordinary skill in the art to modify the nozzle of Stephens et al. in order to provide a sonic nozzle, such as Konishi et al. teach, so that the substrate is more thoroughly cleaned.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (703) 305-7279. The examiner can normally be reached on Monday-Thursday, 7am - 4:30pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on (703) 308-2920. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

LCC
LCC

29 September 2003

Robert J. Warden, Sr.
ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700